

ENRON

Transwestern Pipeline Company

P. O. Box 1188 Houston, Texas 77001 (713) 654-6161

January 15, 1987

U. S. Environmental Protection Agency - Region VI
Pesticides & Toxics Branch
Interfirst Two Building
1201 Elm Street
Dallas, TX 75270

Attention: Mr. Darl Mount

Gentlemen:

RE: Transwestern Pipeline Company - PCB Cleanup

This letter responds to the questions raised at our progress review meeting of December 16, 1986. At that meeting, Transwestern reported on the progress of its test cleanup at the Thoreau station and described the next sequence of events to be followed in this cleanup program. Three questions were raised by EPA for formal response:

- 1) Is there a connection between the Transwestern Pipeline Co. and the Texas Eastern Corp. gas pipeline system?
- 2) What is the possibility of other contaminants being present at these facilities?
- 3) What is the schedule for the completion of the cleanup program in Region VI?

Set forth below are the responses to these inquiries:

1) TEXAS EASTERN CONNECTION

There is no physical or organizational connection between the Transwestern Pipeline Co. and the Texas Eastern Pipeline system. Houston Natural Gas (HNG) purchased the Transwestern Pipeline Co. from Texas Eastern in December of 1984. Subsequently, HNG was acquired by InterNorth Corp., which subsequently changed its name to Enron Corp. The sale of Transwestern to HNG was possible because there is no physical connection between Transwestern and the rest of the Texas Eastern system. The Texas Eastern system flows from south Texas to the east; Transwestern flows from west Texas west to Arizona.

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2) CONTAMINATED SOILS CHARACTERIZATION

A soil sample from the contaminated zone at the Corona, New Mexico compressor station has been scanned for priority pollutants as part of our biodegradation feasibility testing program. Most of the contamination at other downstream locations was carried from this site via pipeline condensate. As such, this sample is believed to be representative of the general type of contamination found at those locations.

A series of analyses were performed on the Corona sample to determine presence of hazardous materials as follows: volatile organics (EPA 8240), semivolatile, or acid, base/neutral extractable organics (EPA 8270), organichlorine pesticides and PCBs (EPA 8080) and heavy metals by Inductively Coupled Argon Plasma Spectrophotometer (ICP).

Analytical results are summarized in the appended lab reports. No volatile organic compounds were detected. Analysis for semivolatile organics did not detect any acid extractable compounds. Those compounds included the following polynuclear aromatics:

- fluoranthene (1.7 mg/kg)
- benzo (a) anthracene (1.3 mg/kg)
- benzo (a) pyrene (1.5 mg/kg)
- benzo (b and k) fluoranthene (2.2 mg/kg)
- chrysene (1.7 mg/kg)
- benzo (ghi) perylene (3.1 mg/kg)
- phenanthrene (0.92 mg/kg)
- indeno (1,2,3-cd) pyrene (1.4 mg/kg)
- pyrene (1.8 mg/kg)
- PCB (43.0 mg/kg)

The PCB analysis (8080) indicated the presence of PCB-1248 at a concentration of 490.0 mg/kg.

The metals analyses indicated high levels of aluminum, calcium, magnesium, and iron. These metals probably reflect the carbonate (limestone) soils found at the site.

The condensate itself is composed predominantly of normal alkanes which do not appear on the priority pollutant scans.

Transwestern's facilities were designed and are operated as single function stations for the processing and transportation of natural gas. These stations were built in remote areas of the western United States on sites where no previous industrial activity had occurred; therefore, prior existing contaminants from previous owners is not expected at these sites.

At our meeting, the related issue of cross-contamination of Transwestern facilities was raised concerning the Puckett Plant and arsenic contamination. The Puckett Plant, located in Pecos County, Texas has not been in operation since February 1985. Transwestern has filed a Part B RCRA application for closure of that facility with the Texas Water Commission and Region VI EPA. The Puckett Plant is unique in North America because it used asolution containing arsenic to treat sour gas (Giammarco Vetrocoke Process). The spent arsenic solution was held at the plant in unlined impoundments for evaporation during the early years of operation (beginning in 1960). No other Transwestern facility used this process or had this kind of hazardous waste management situation. The Puckett Plant is at the extreme eastern end of the Transwestern system, some three hundred miles east of Corona.

Similarly, PCBs were introduced into the Transwestern system only at Station 8, Corona, when a turbine compressor taken from Texas Eastern's eastern system was installed at Corona in 1968 to replace the original unit that had been destroyed by fire. This is the only unit in the Transwestern system that used the synthetic lubricating oil that contained the PCBs. The Transwestern system is physically separated from the Texas Eastern pipeline and the flow of gas is from east to west only. There is no indication of PCB contamination at Transwestern's facilities east of Corona. Therefore, there is no reason to believe that PCBs have contaminated other facilities such as Puckett.

Soils tests at Puckett confirm this (see our Part B Application and related attachments on file with Region VI EPA).

3) THOREAU TEST CLEANUP AND REVISED SCHEDULE

The Thoreau test was successful in the following areas:

- 1) Confirmation of actual contaminant extent.
- 2) Various types of excavation equipment were identified as appropriate for various contamination situations.
- 3) Identifying techniques for the cleanup of a variety of contaminant situations.
- 4) Training of Transwestern personnel in cleanup procedures.

However, several unexpected buried condensate impoundments were discovered during the operation and significantly increased the volume of contaminated material requiring disposal (to several thousand cubic yards). Subsequent operations included an additional boring program to evaluate the extent of this contamination. This material appears to extend to a depth of about 35 feet below ground surface directly under the buried impoundment with minimal indication of lateral migration. The volume of contaminated material remaining in place may amount to an additional several thousand cubic yards.

No groundwater was observed during sampling, and the area appears to be underlain by a continuous clay layer. Groundwater is reported to exist in three aquifers in the area. Of these, almost all of the production is from the lower two. No immediately-downgradient wells at any level were identified in a search for permitted wells. No free groundwater has been detected in this zone to date.

The significant increase in the volume and depth of material requiring cleanup compelled a reevaluation of the disposal timetable, as outlined in our Excavation Plan submitted on May 1, 1986 and approved by EPA by letter dated July 2, 1986. The contaminated soil at Thoreau will be disposed of during the general cleanup of the Region VI facilities according to the schedule set out below.

The Thoreau site has been secured for the interim. The contaminated soil in the area of the excavation has been placed in the depression caused by the excavation and compacted. It was then mounded and covered with an impermeable membrane.

This layer was then covered with eight inches of clean dirt to protect it from the elements. The secured area has been surrounded by a drainage control berm to direct surface flow around the secured area and has been placarded. In addition, a monitoring well network (see attached diagram) will be installed downgradient from the area to detect any appearance of groundwater and to allow collection of samples for analysis. Personnel will be restricted from this area. Access will only be allowed with appropriate protective personal equipment.

Studies of best available treatment technologies to date have indicated that several forms of onsite destruction are feasible and economically advantageous. Most of these technologies involved transportable incineration units. We are also completing a laboratory biofeasibility study and are actively investigating various offsite disposal options.

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As agreed in our meeting, the cleanup schedule for sites in Region VI has been revised as follows:

By February 16, 1987, a request-for-proposal (RFP) for large scale soil treatment/disposal for all sites in Region VI and Region IX will be developed. (This could not be done until we concluded the sampling plan in Region IX to determine the volumes to be treated in Arizona. That effort was concluded in December 1986.)

By June 1, 1987, we anticipate selection of a disposal technology and award of contract for the cleanup.

The schedule beyond the award of contract is, of course, dependent upon the nature of the technology selected. If major permit work is required, we would hope to have your support in expediting the permit process, as we discussed in our December meeting. Based on current estimates of volumes of soil to be excavated, the time needed for construction, installation, and startup of an onsite unit range from six to twelve months, exclusive of permitting. The actual cleanup would then require a similar period of time.

I hope that this letter answers the questions raised at our meeting. We greatly appreciate the continuing cooperation your group has displayed and look forward to concluding this program as expeditiously as possible. Please contact me at 713-853-6851 if I can be of further assistance.

Very truly yours,



Richard Tavelli

RT:fv

Attachments

cc: Robert Carroll, Enron Corp.
Robert Castle, Woodward-Clyde Consultants
Barbara Greenfield, Regional Counsel Office
James Jaffe, Jaffe & Associates
Robert Murphy, Chief, Toxics and Pesticides Section
Gordon Wassell, Enron Corp.

CLIENT ID: 9286

CAL LAB NO: 26864-1

PP#	<u>VOLATILES</u>	UG/Kg (lab)	RL
4V	benzene	ND	200
6V	carbon tetrachloride	ND	200
7V	chlorobenzene	ND	200
10V	1,2-dichloroethane	ND	200
11V	1,1,1-trichloroethane	ND	200
13V	1,1-dichloroethane	ND	200
14V	1,1,2-trichloroethane	ND	200
15V	1,1,2,2-tetrachloroethane	ND	200
16V	chloroethane	ND	200
19V	2-chloroethylvinyl ether	ND	200
23V	chloroform	ND	1000
29V	1,1-dichloroethane	ND	200
30V	cis and/or trans -1,2-dichloroethane	ND	200
32V	1,2-dichloropropane	ND	200
33V	1,3-dichloropropane	ND	200
38V	ethylbenzene	ND	500
44V	methylene chloride	ND	2500
45V	chloromethane	ND	200
46V	bromomethane	ND	200
47V	bromoform	ND	200
48V	bromodichloromethane	ND	200
49V	fluorotrichloromethane	ND	200
51V	chlorodibromomethane	ND	200
55V	tetrachloroethane	ND	200
56V	toluene	ND	200
57V	trichloroethane	ND	200
58V	vinyl chloride	ND	200

NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCE LIST COMPOUNDS

CL13	acetone	ND	3000
CL14	2-butanone	ND	10000
CL15	carbonylsulfide	ND	200
CL16	2-hexanone	ND	500
CL17	4-methyl-2-pentanone	ND	500
CL18	styrene	ND	200
CL19	vinyl acetate	ND	1000
CL20	total xylenes	ND	200

RL - reporting limit

ND - not detected

* - compound present, but at a level below the reporting limit

Prepared by: Approved by: 

Date: 11/13/84

CAL LAB No: 26264

[illegible]

NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCES LIST COMPOUNDS

CL1 benzoic acid	ND	10000	CL7 4-chloroaniline	ND	2000
CL2 2-methylphenol	ND	2000	CL8 dibenzofuran	ND	2000
CL3 4-methylphenol	ND	2000	CL9 2-methylnaphthalene	ND	2000
CL4 2,4,5-trichlorophenol	ND	10000	CL10 2-nitroaniline	ND	10000
CL5 aniline	ND	2000	CL11 3-nitroaniline	ND	10000
CL6 benzyl alcohol	ND	2000	CL12 4-nitroaniline	ND	10000

RL = reporting limit ND = not detected
= compounds co-elute - analyzed as a single compound
* = compound present, but at a level below the reporting limit

PREPARED BY:

APPROVED BY:

DATE:

DATE: 11/20/86

ORGANOCHLORINE PESTICIDES AND PCB'S
EPA Method 8080
Data Sheet

Sample I.D. 9286 11-6-86

CAL I.D. 26864

	<u>ug/Kg (ppb)</u>
alpha-BHC	<u><6300</u>
gamma-BHC	<u><6300</u>
beta-BHC	<u><6300</u>
heptachlor	<u><6300</u>
delta-BHC	<u><6300</u>
aldrin	<u><6300</u>
heptachlor epoxide	<u><6300</u>
endosulfan I	<u><13000</u>
p,p'-DDE	<u><13000</u>
dieldrin	<u><13000</u>
endrin	<u><13000</u>
endosulfan II	<u><13000</u>
p,p'-DDD	<u><26000</u>
p,p'-DDT	<u><26000</u>
endrin aldehyde	<u><26000</u>
endosulfan sulfate	<u><26000</u>
methoxychlor	<u><130000</u>
PCB-1242	<u><130000</u>
PCB-1248	<u>490000</u>
PCB-1254	<u><130000</u>
PCB-1260	<u><130000</u>
chlordane	<u><130000</u>
toxaphene	<u><1300000</u>

The less-than (<) symbol means "not present at or above the indicated value (detection limit)."

PREPARED BY MB

APPROVED BY MB

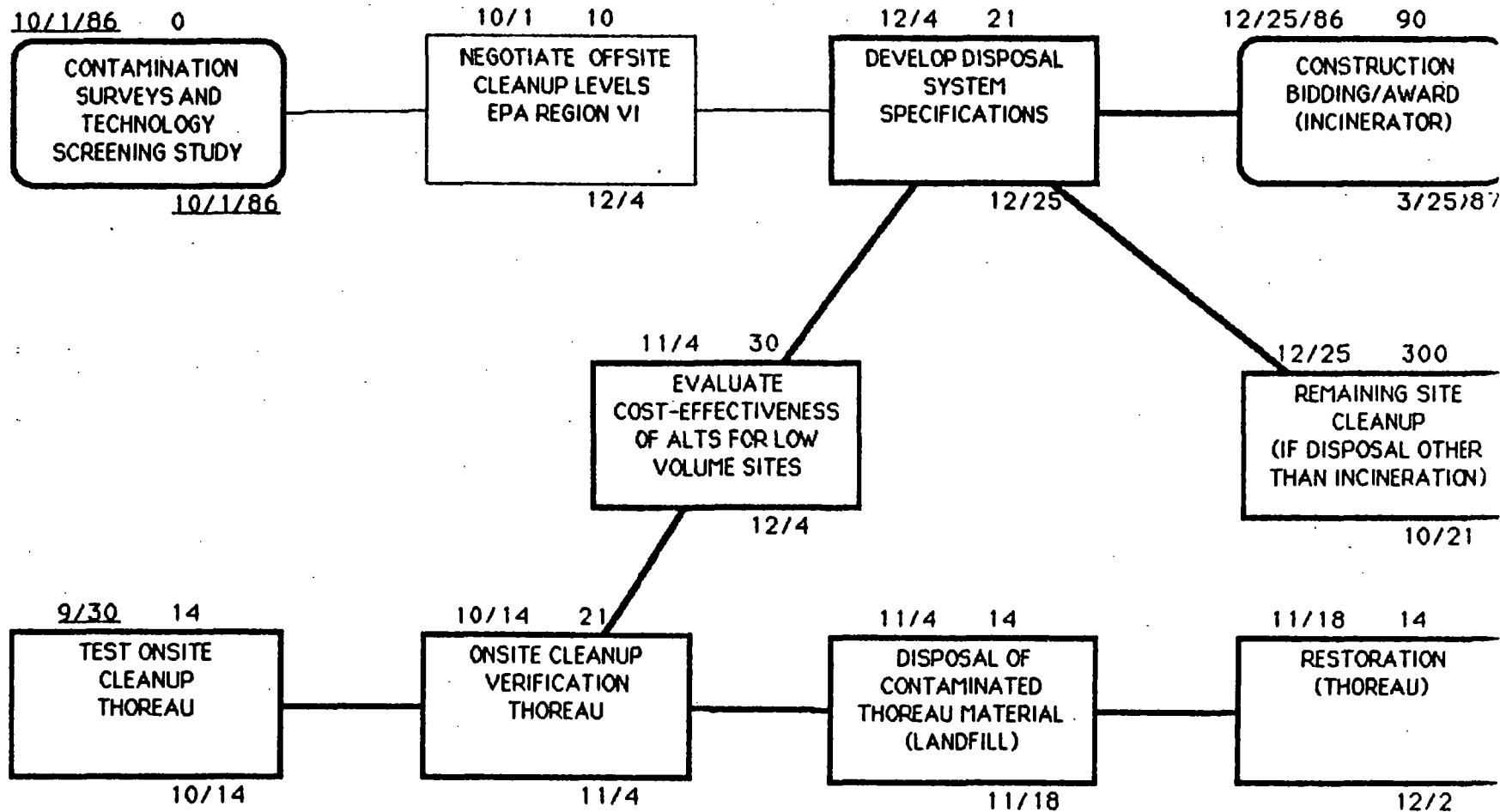
METALS SCAN BY ICP (SOIL)
Data Sheet

Sample I.D. 9286 11-6-86

CAL I.D. 26864

	<u>mg/Kg (ppm)</u>
Aluminum	<u>6390</u>
Antimony	<u><12</u>
Arsenic	<u><40</u>
Barium	<u>201</u>
Beryllium	<u><1</u>
Boron	<u><20</u>
Cadmium	<u><1</u>
Calcium	<u>95200</u>
Chromium	<u>7.4</u>
Cobalt	<u><10</u>
Copper	<u>8.3</u>
Iron	<u>6200</u>
Lead	<u><10</u>
Lithium	<u>8.9</u>
Magnesium	<u>4880</u>
Manganese	<u>184</u>
Molybdenum	<u><10</u>
Nickel	<u>8.6</u>
Potassium	<u><1000</u>
Selenium	<u><40</u>
Silver	<u><2</u>
Sodium	<u><1000</u>
Thallium	<u><80</u>
Tin	<u><20</u>
Vanadium	<u>16</u>
Zinc	<u>25</u>

The less-than (<) symbol means "not present at or above the indicated value (detection limit)".



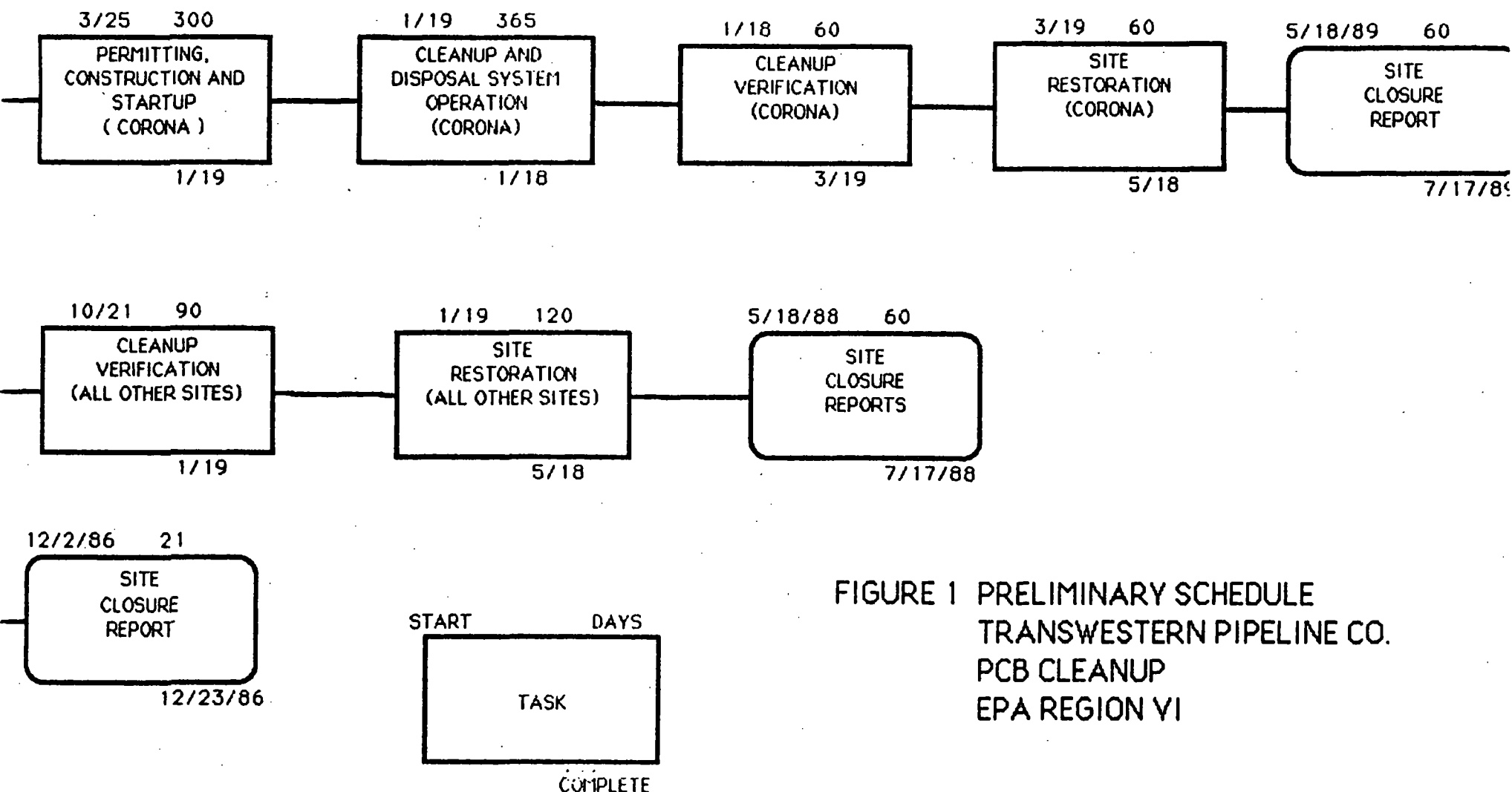
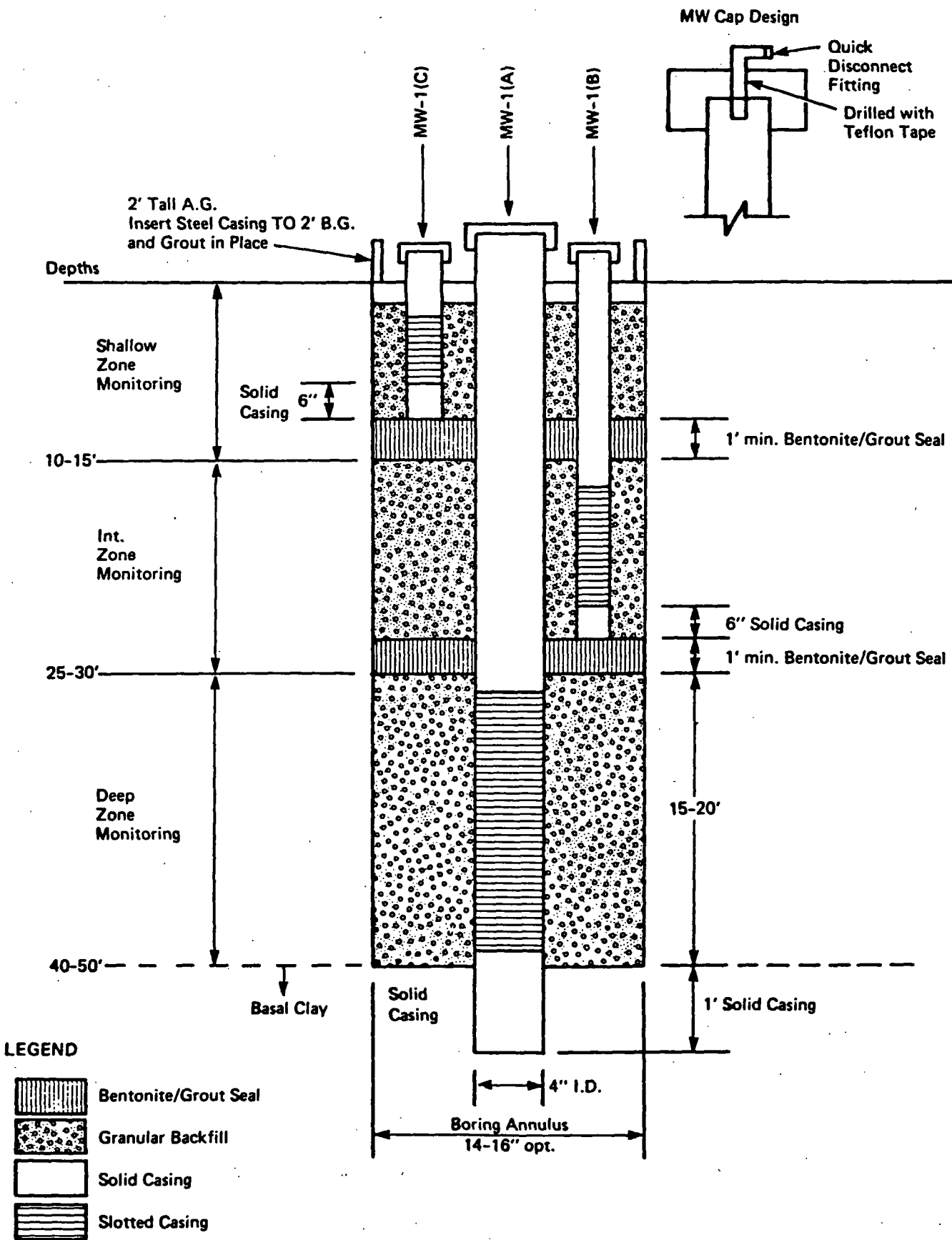


FIGURE 1 PRELIMINARY SCHEDULE
TRANSWESTERN PIPELINE CO.
PCB CLEANUP
EPA REGION VI



Project No. 90158B	Enron	MONITORING WELL CLUSTER	Figure 2
Woodward-Clyde Consultants			